UK NEQAS
Leucocyte Immunophenotyping

Sheffield Teaching Hospitals NHS
NHS Foundation Trust

Leukaemia Immunophenotyping (Part 1) Programme

Sample - 161705

All Participant Report

Distribution - 161705 Closing Date - 13 March 2017 Participant ID - 42981

Date Issued - 21 February 2017

Trial Comments

This trial was issued to 283 participants. Please note - the z score limits have been altered to 2.5 and 3.5.

Sample Comments

The sample was manufactured by UK NEQAS using a sample of blood from a leukaemia patient which was stabilised and added to a stabilised unit of whole blood.

Results and Performance

Overall Performance Grade (Core Antigens Only)	Performance Status for this Sample	Performance Status Classification Over 6 Sample Period	
		Satisfactory (Grades A-C)	Critical (Grades D-G)
A	Satisfactory	6	0

Please note performance monitoring for this programme is semi-qualitative and is based on the overall performance grade obtained from the consensus immunophenotype on the core antigens. **The robust statistics and z-scores provided below are related to technical performance on individual antigens and are not used for performance monitoring**. Derivation of z-scores requires normally distributed data and the results for this programme vary between normal and abnormal distribution based on the antigens and on a sample to sample basis. Therefore z-scores for antigens with expressions at the extremes of the results scale (around 0% and 100%) may not truly reflect the performance of the antigen and **all z-scores should be viewed as for information purposes only**.

Antigen	Your Results (%)	Your Result Antigen Expression (Positive/Negative)	Consensus Antigen Expression (Positive/Negative)	Robust Mean (%)	Robust SD (%)
CD2	0.00	-	-	0.00	0.00
CD3	0.00	-	-	0.00	0.00
CD5	0.00	-	-	0.00	0.00
CD13	30.00	+	+	59.58	19.23
CD19	0.00	-	-	0.00	0.00
CD20	0.00	-	-	0.00	0.00
CD117	0.00	-	-	10.63	7.67
Myeloperox	10.00	-	-	8.30	7.74
TDT	0.00	-	-	0.00	0.00
CD33	100.00	+	+	82.97	15.33
CD34	0.00	-	-	0.00	0.00
HLADR	100.00	+	+	77.25	19.20
CD14	10.00	-	+	26.58	23.27
CD15			-	21.33	21.36
CD10			-	0.00	0.00
CD4			+	73.99	16.52
CD7			-	3.12	3.29
CD11c			+	88.33	9.79
CD45			+	100.00	0.00
CD64	100.00	+	+	77.62	20.29
CD11b			+	78.82	11.75
CD56			-	1.03	1.16
CD38			+	82.55	13.73
CD36			+	78.15	17.80

Sheffield Teaching Hospitals NHS Foundation Trust, a UKAS proficiency testing provider No. 7804, operating UK NEQAS for Leucocyte Immunophenotyping.

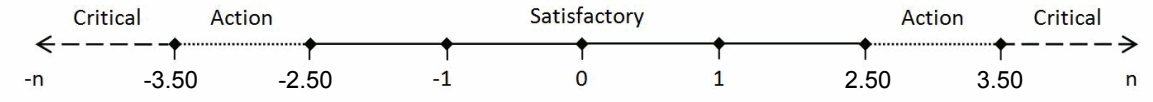
Leukaemia Immunophenotyping (Part 1) Programme

Sample - 161705

Antigen	z Score*	Performance Status for this Sample	Performance Status Classification Over 6 Sample Period		
			Satisfactory	Action	Critical
CD10		Action			
CD2	0.00	Satisfactory	6	0	0
CD34	0.00	Satisfactory			
CD56		Action			
CD4		Action			
CD11c		Action			
CD3	0.00	Satisfactory	6	0	0
CD13	-1.54	Satisfactory	6	0	0
HLADR	1.18	Satisfactory			
CD64	1.10	Satisfactory			
CD45		Action			
CD38		Action			
CD5	0.00	Satisfactory	5	1	0
CD19	0.00	Satisfactory	6	0	0
Myeloperox	0.22	Satisfactory			
CD14	-0.71	Satisfactory			
TDT	0.00	Satisfactory			
CD15		Action			
CD20	0.00	Satisfactory	6	0	0
CD7		Action			
CD11b		Action			
CD33	1.11	Satisfactory			
CD36		Action			
CD117	-1.39	Satisfactory			

***z Score Limits Definitions**

Please note the scale below is applicable to the tables above and to the z score histograms and Shewhart control charts that follow. It is not applicable to the Cusum control charts.



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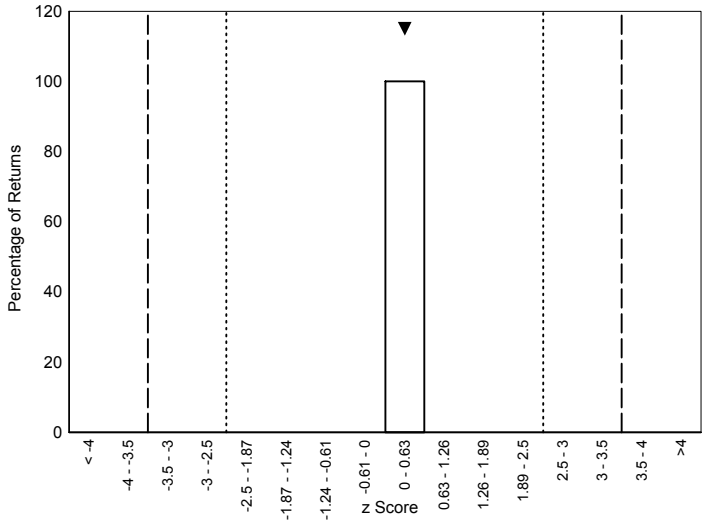
Leukaemia Immunophenotyping (Part 1) Programme

Sample - 161705

Histograms of Participant z Scores

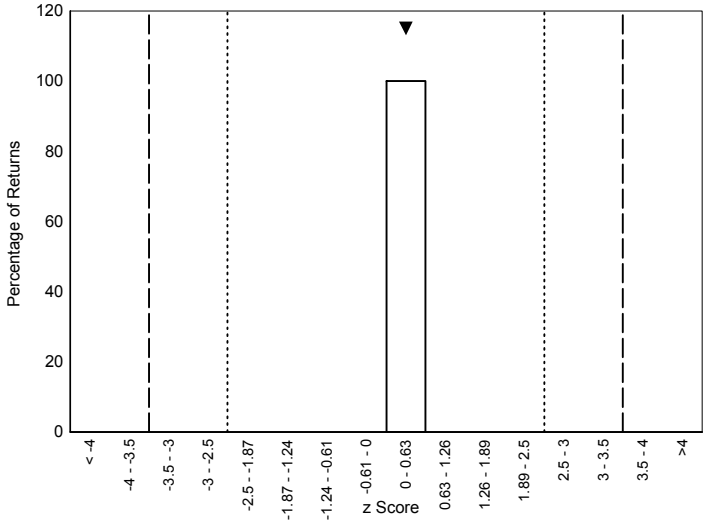
Percentage Values (%) - CD3

Please note ▼ denotes your result



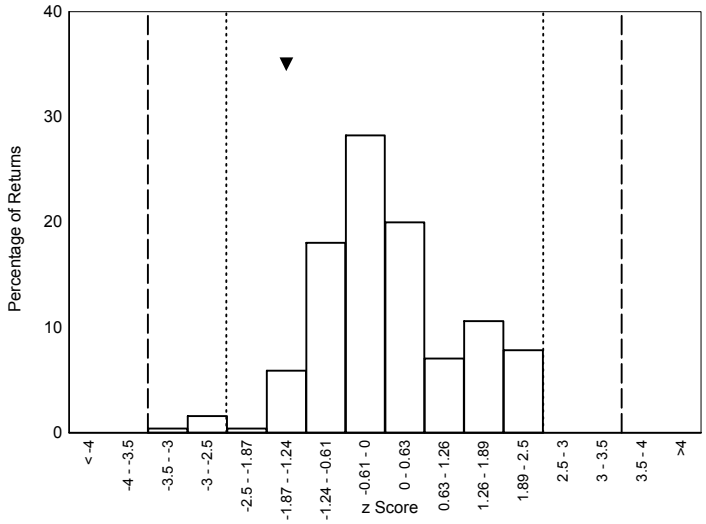
Percentage Values (%) - CD2

Please note ▼ denotes your result



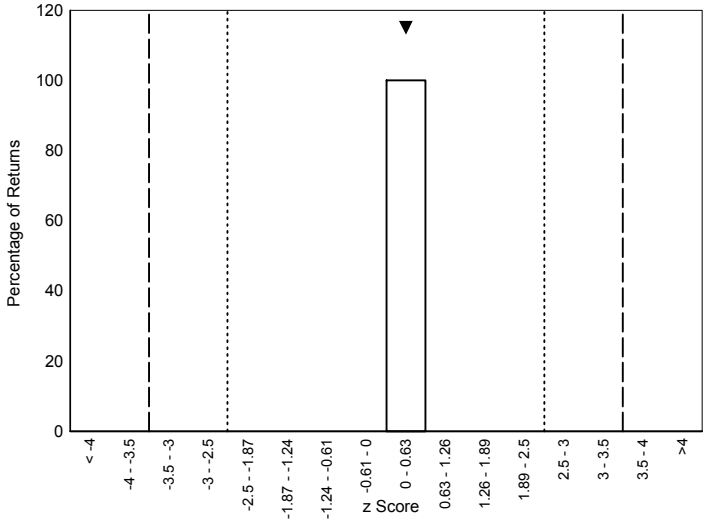
Percentage Values (%) - CD13

Please note ▼ denotes your result



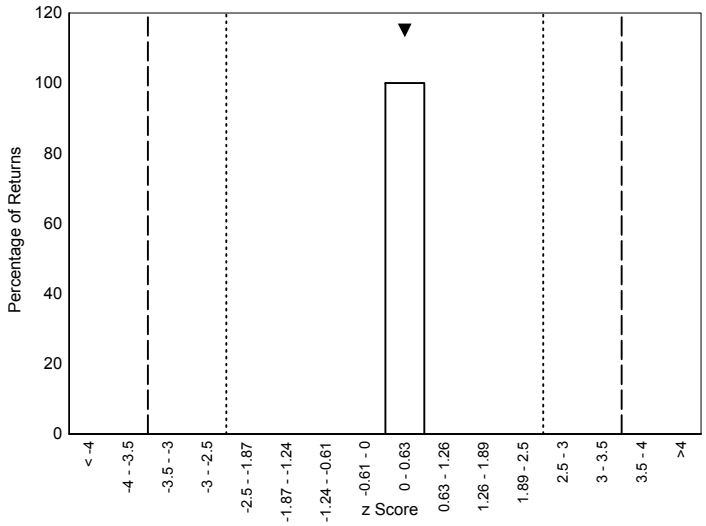
Percentage Values (%) - CD5

Please note ▼ denotes your result



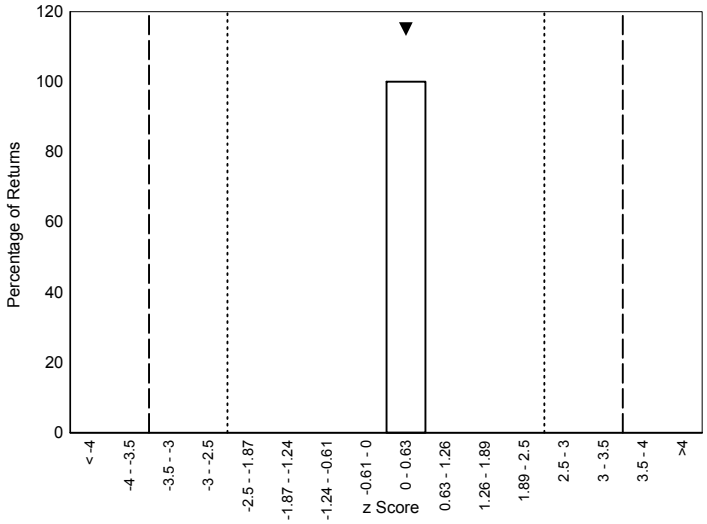
Percentage Values (%) - CD20

Please note ▼ denotes your result



Percentage Values (%) - CD19

Please note ▼ denotes your result



Sheffield Teaching Hospitals NHS Foundation Trust, a UKAS proficiency testing provider No. 7804, operating UK NEQAS for Leucocyte Immunophenotyping.

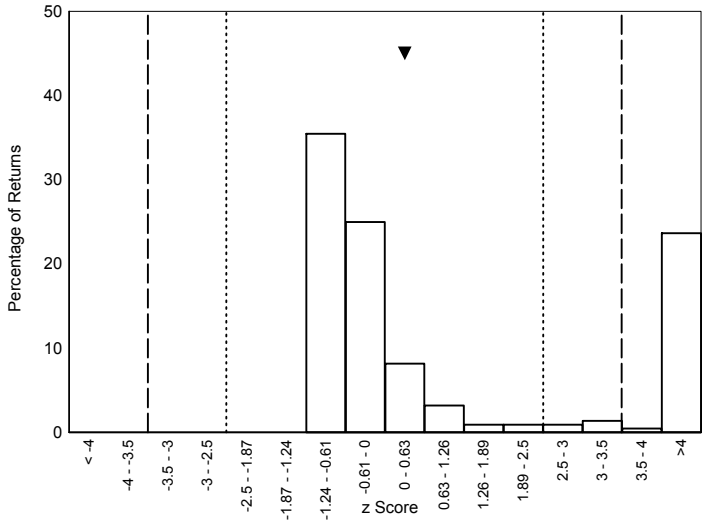
Leukaemia Immunophenotyping (Part 1) Programme

Sample - 161705

Histograms of Participant z Scores

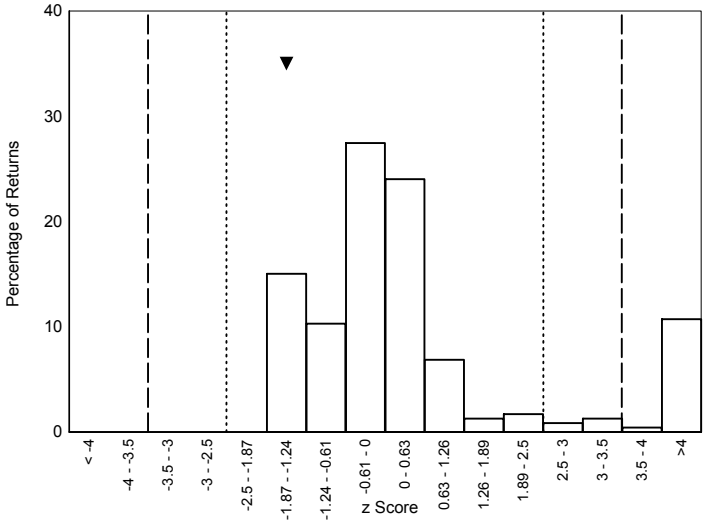
Percentage Values (%) - Myeloperox

Please note ▼ denotes your result



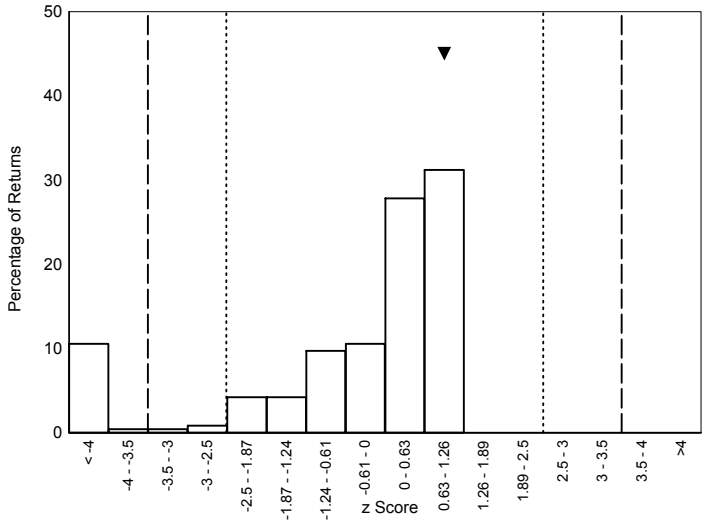
Percentage Values (%) - CD117

Please note ▼ denotes your result



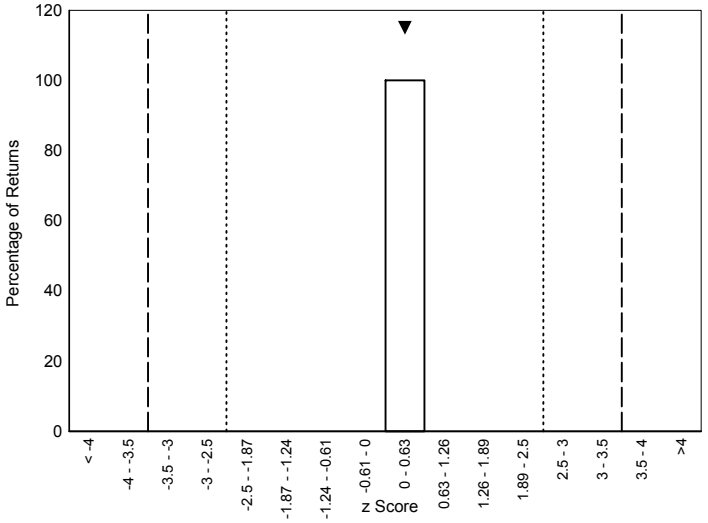
Percentage Values (%) - CD33

Please note ▼ denotes your result



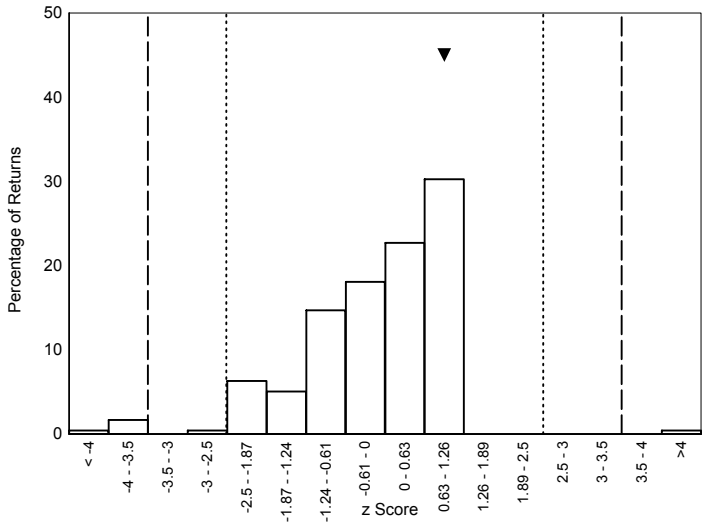
Percentage Values (%) - TDT

Please note ▼ denotes your result



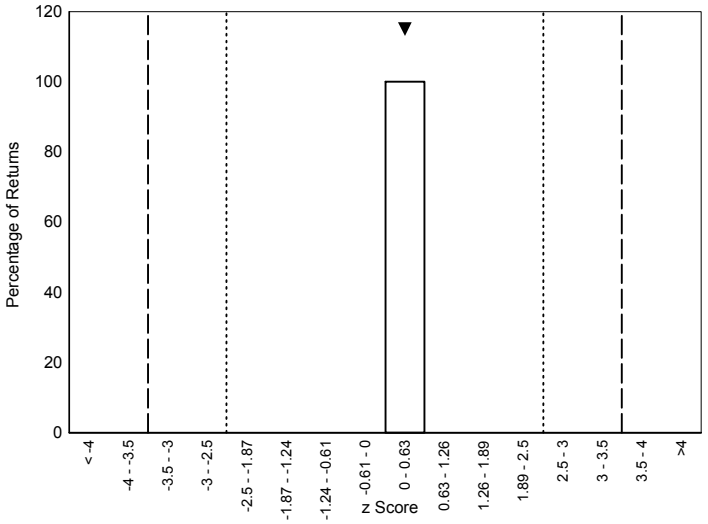
Percentage Values (%) - HLADR

Please note ▼ denotes your result



Percentage Values (%) - CD34

Please note ▼ denotes your result



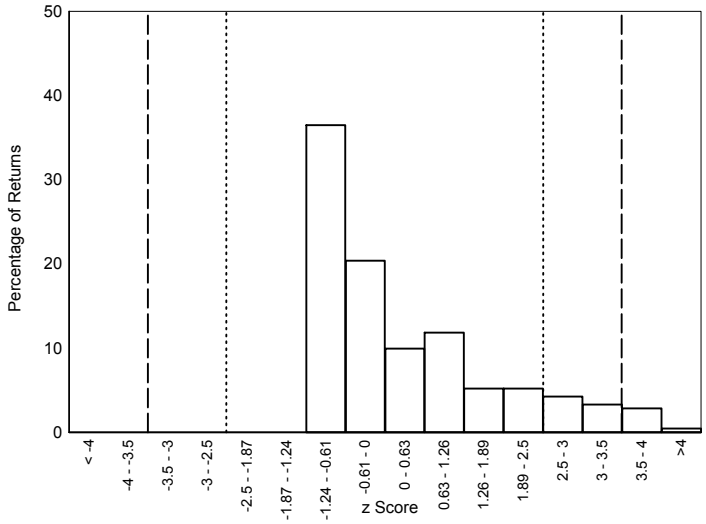
Leukaemia Immunophenotyping (Part 1) Programme

Sample - 161705

Histograms of Participant z Scores

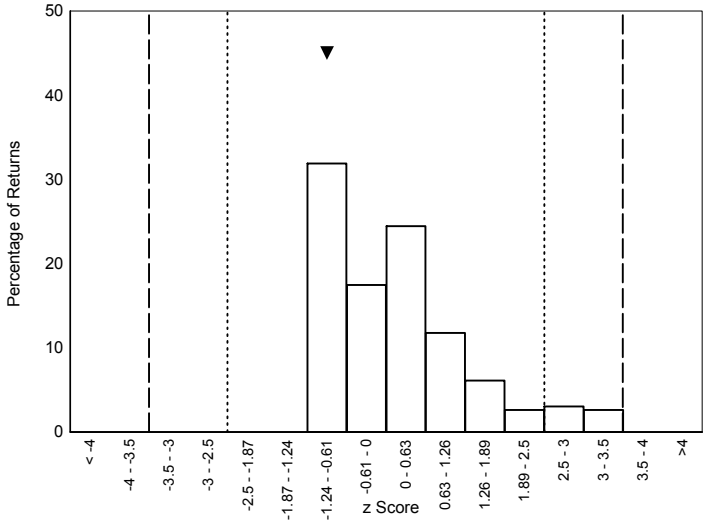
Percentage Values (%) - CD15

Please note ▼ denotes your result



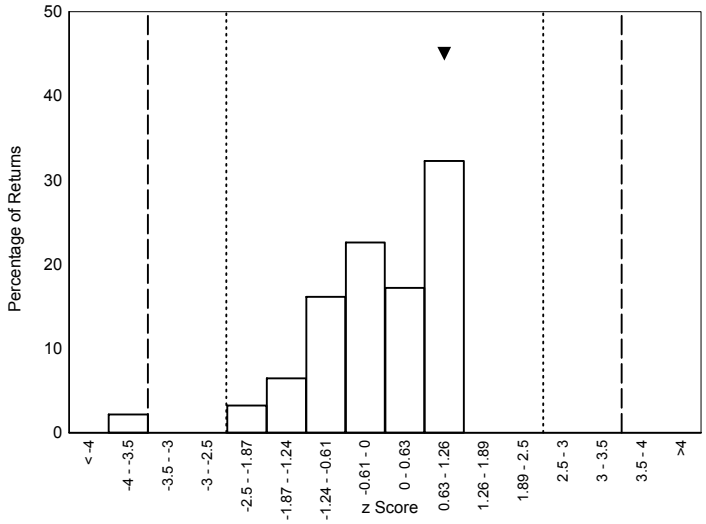
Percentage Values (%) - CD14

Please note ▼ denotes your result



Percentage Values (%) - CD64

Please note ▼ denotes your result



Sheffield Teaching Hospitals NHS Foundation Trust, a UKAS proficiency testing provider No. 7804, operating UK NEQAS for Leucocyte Immunophenotyping.

Leukaemia Immunophenotyping (Part 1) Programme

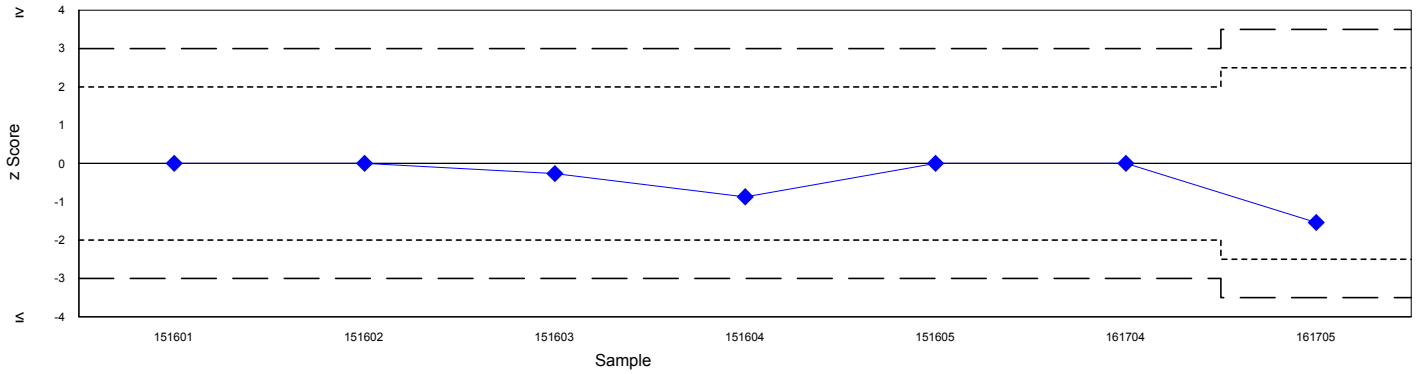
Sample - 161705

Shewhart Control Charts

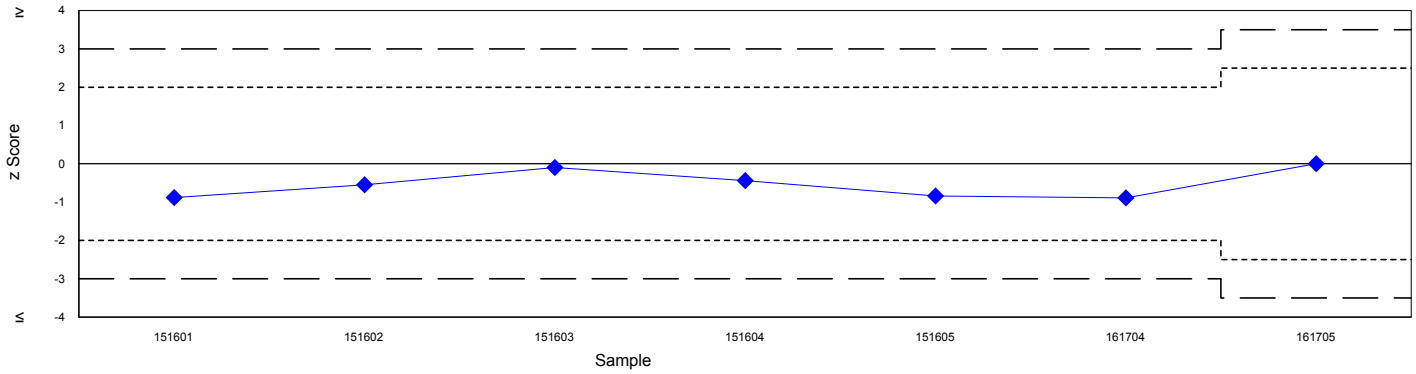
(Please note each data point represents a single sample)

Percentage Values (%)

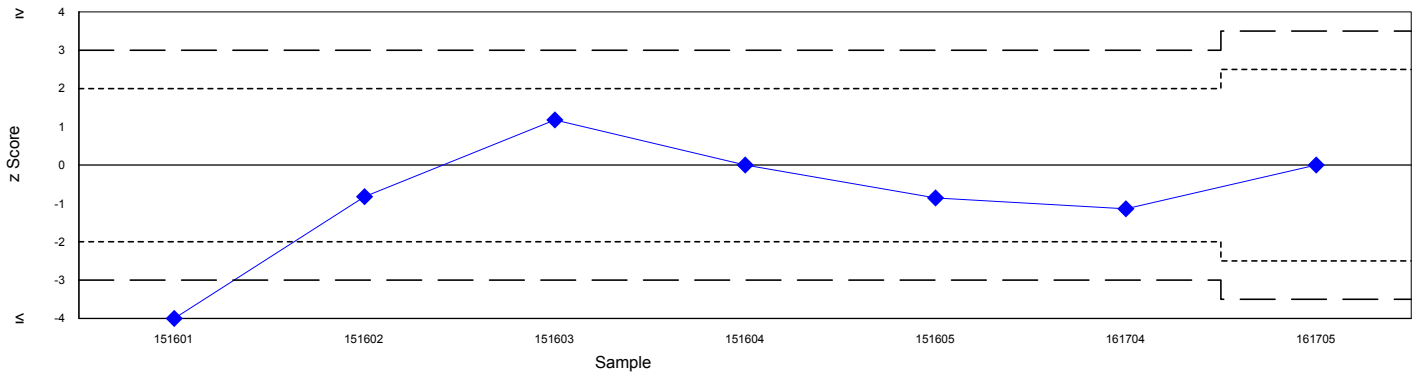
CD13



CD19



CD2



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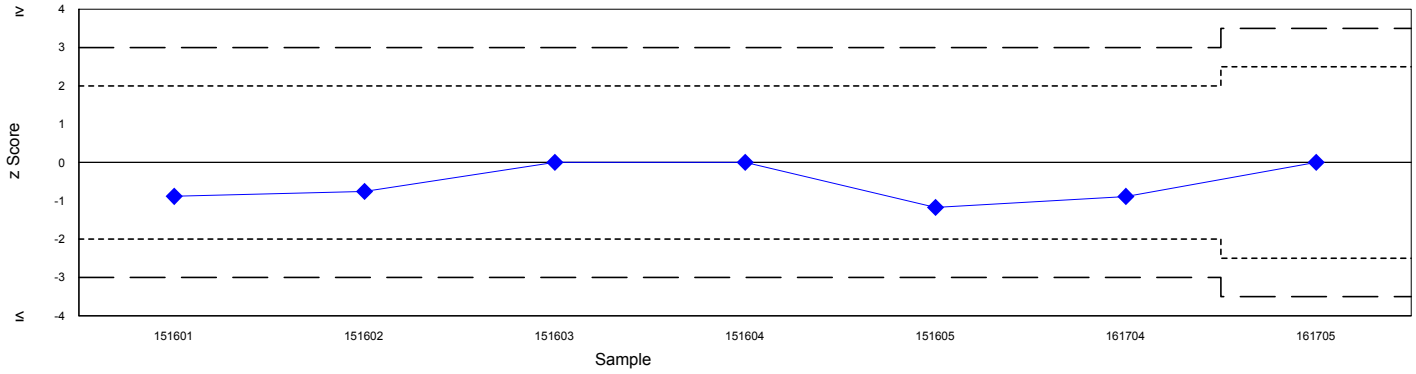
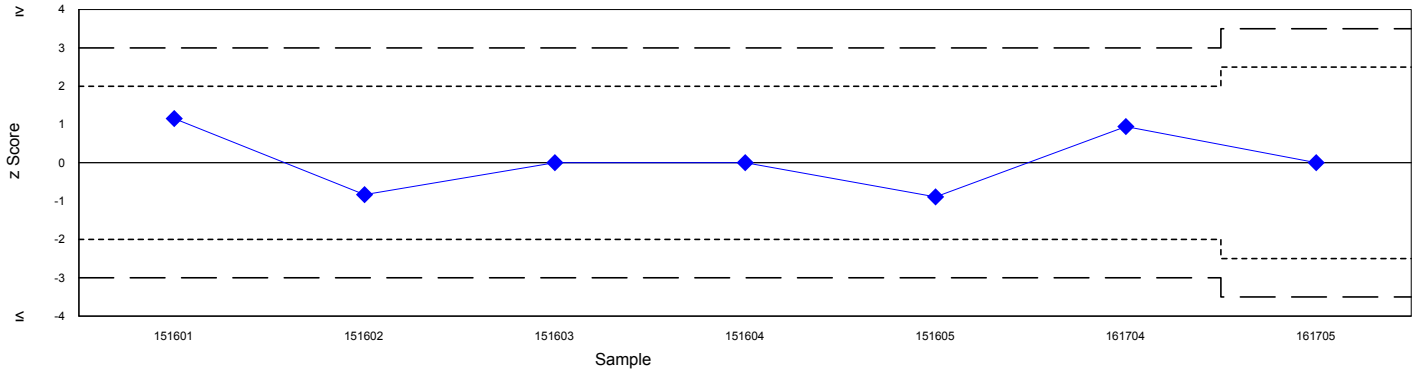
Leukaemia Immunophenotyping (Part 1) Programme

Sample - 161705

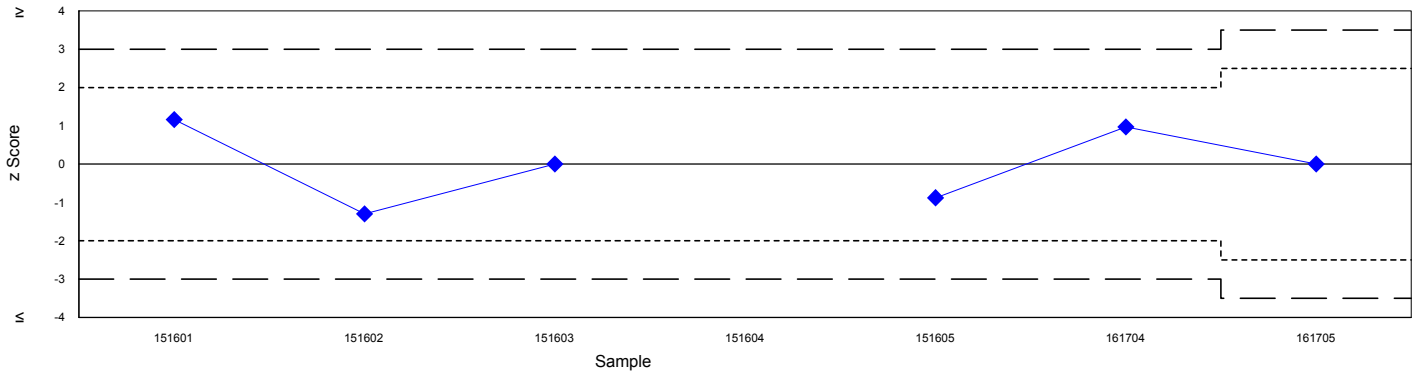
CD20



CD3



CD5



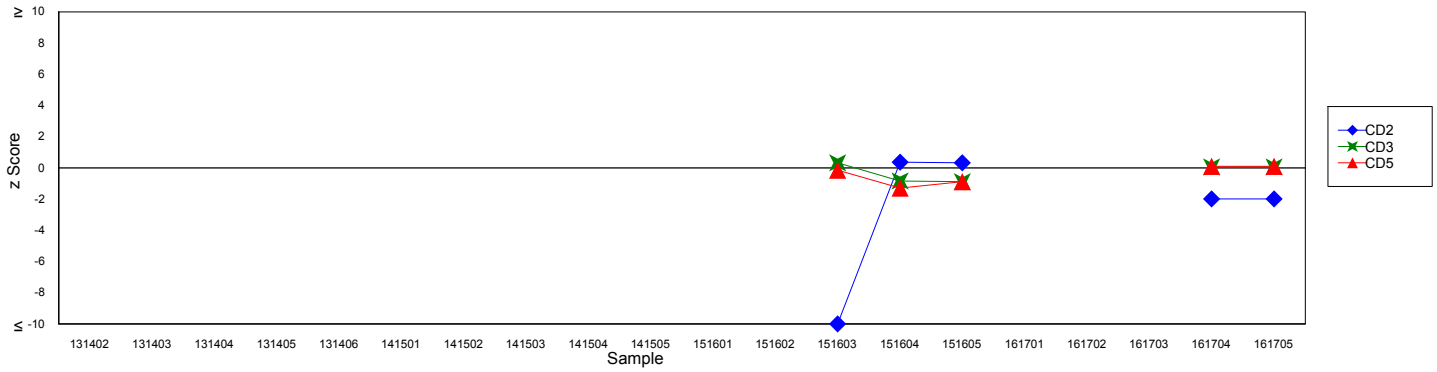
Leukaemia Immunophenotyping (Part 1) Programme

Sample - 161705

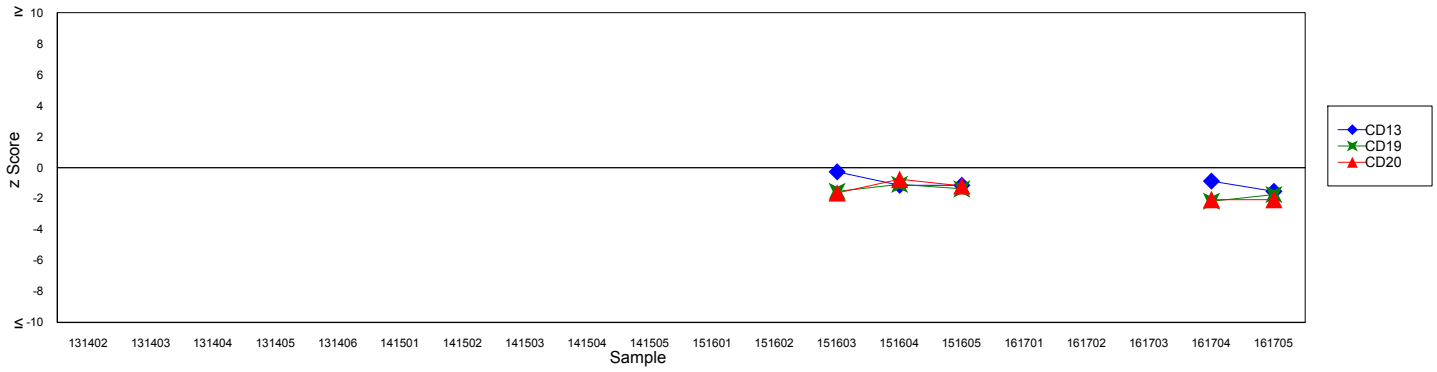
Cusum Control Charts

(Please note each data point represents the sum of the z scores of the current sample and the two previous samples)

Percentage Values (%)



Percentage Values (%)



Sheffield Teaching Hospitals NHS Foundation Trust, a UKAS proficiency testing provider No. 7804, operating UK NEQAS for Leucocyte Immunophenotyping.

Leukaemia Immunophenotyping (Part 1) Programme

Sample - 161705

Antibody Manufacturer Specific Statistics

(Please note only groups of >20 returns are displayed)

CD2	Percentage Values (%)		
Method	Returns	Robust Mean	Robust SD
BD Biosciences	140	0.0	0.0
Beckman Coulter	80	0.1	0.1

CD3	Percentage Values (%)		
Method	Returns	Robust Mean	Robust SD
BD Biosciences	136	0.0	0.0
Beckman Coulter	86	0.1	0.1

CD5	Percentage Values (%)		
Method	Returns	Robust Mean	Robust SD
BD Biosciences	137	0.0	0.0
Beckman Coulter	84	0.2	0.2

CD13	Percentage Values (%)		
Method	Returns	Robust Mean	Robust SD
BD Biosciences	146	59.0	14.2
Beckman Coulter	77	61.3	25.4

CD19	Percentage Values (%)		
Method	Returns	Robust Mean	Robust SD
BD Biosciences	113	0.0	0.0
Beckman Coulter	112	0.1	0.2

CD117	Percentage Values (%)		
Method	Returns	Robust Mean	Robust SD
BD Biosciences	101	10.0	6.5
Beckman Coulter	98	11.2	8.9

Myeloperox	Percentage Values (%)		
Method	Returns	Robust Mean	Robust SD
BD Biosciences	77	3.7	3.7
Beckman Coulter	54	38.8	39.5
Dako	64	7.4	6.6

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Leukaemia Immunophenotyping (Part 1) Programme

Sample - 161705

Antibody Manufacturer Specific Statistics

(Please note only groups of >20 returns are displayed)

TDT

Method	Percentage Values (%) Returns	Robust Mean	Robust SD
BD Biosciences	59	0.0	0.0
Beckman Coulter	60	0.0	0.0
Dako	62	0.0	0.0

CD4

Method	Percentage Values (%) Returns	Robust Mean	Robust SD
BD Biosciences	21	76.1	13.1

CD33

Method	Percentage Values (%) Returns	Robust Mean	Robust SD
BD Biosciences	131	84.3	14.7
Beckman Coulter	77	83.8	13.8

CD45

Method	Percentage Values (%) Returns	Robust Mean	Robust SD
BD Biosciences	26	100.0	0.0

CD34

Method	Percentage Values (%) Returns	Robust Mean	Robust SD
BD Biosciences	143	0.0	0.0
Beckman Coulter	70	0.0	0.1

HLADR

Method	Percentage Values (%) Returns	Robust Mean	Robust SD
BD Biosciences	126	78.9	18.0
Beckman Coulter	67	74.9	18.1

CD14

Method	Percentage Values (%) Returns	Robust Mean	Robust SD
BD Biosciences	132	23.0	21.8
Beckman Coulter	70	30.9	22.5

Leukaemia Immunophenotyping (Part 1) Programme

Sample - 161705

Antibody Manufacturer Specific Statistics

(Please note only groups of >20 returns are displayed)

CD15	Percentage Values (%)		
Method	Returns	Robust Mean	Robust SD
BD Biosciences	120	32.2	30.3
Beckman Coulter	59	9.7	10.1

CD64	Percentage Values (%)		
Method	Returns	Robust Mean	Robust SD
BD Biosciences	39	81.3	18.6
Beckman Coulter	31	76.7	20.1

CD11b	Percentage Values (%)		
Method	Returns	Robust Mean	Robust SD
BD Biosciences	21	76.1	15.6

CD20	Percentage Values (%)		
Method	Returns	Robust Mean	Robust SD
BD Biosciences	139	0.0	0.0
Beckman Coulter	74	0.0	0.0

Leukaemia Immunophenotyping (Part 1) Programme

Sample - 161705

Antibody Fluorochrome Specific Statistics

(Please note only groups of >20 returns are displayed)

CD2	Percentage Values (%)		
Method	Returns	Robust Mean	Robust SD
APC	29	0.0	0.0
FITC	98	0.0	0.0
PE	55	0.0	0.0
PE-CY7	37	0.0	0.0

CD3	Percentage Values (%)		
Method	Returns	Robust Mean	Robust SD
Alexa 750	28	0.0	0.0
APC	35	0.0	0.0
ECD	21	0.5	0.6
FITC	38	0.5	0.5
PE	20	0.0	0.0

CD5	Percentage Values (%)		
Method	Returns	Robust Mean	Robust SD
APC	39	0.0	0.0
FITC	53	0.0	0.0
PE	28	0.2	0.2
PE-CY7	31	0.0	0.0
PerCP-CY5.5	31	0.0	0.0

CD13	Percentage Values (%)		
Method	Returns	Robust Mean	Robust SD
PE	170	60.2	15.6
PE-CY7	24	47.8	16.6

CD19	Percentage Values (%)		
Method	Returns	Robust Mean	Robust SD
APC	40	0.0	0.0
PE	33	0.8	1.0
PE-CY7	67	0.0	0.0

Leukaemia Immunophenotyping (Part 1) Programme

Sample - 161705

Antibody Fluorochrome Specific Statistics

(Please note only groups of >20 returns are displayed)

CD117	Percentage Values (%)		
Method	Returns	Robust Mean	Robust SD
APC	40	11.5	8.1
PE	82	10.8	5.9
PE-CY7	68	11.4	8.9

Myeloperox	Percentage Values (%)		
Method	Returns	Robust Mean	Robust SD
FITC	128	8.5	7.4
PE	76	7.4	7.5

TDT	Percentage Values (%)		
Method	Returns	Robust Mean	Robust SD
FITC	174	0.0	0.0

CD33	Percentage Values (%)		
Method	Returns	Robust Mean	Robust SD
APC	68	85.2	13.1
PE	86	81.7	17.2
PE-CY7	25	79.6	14.0

CD34	Percentage Values (%)		
Method	Returns	Robust Mean	Robust SD
APC	43	0.1	0.2
FITC	24	0.0	0.0
PE	45	0.2	0.2
PE-CY7	26	0.1	0.1
PerCP-CY5.5	46	0.0	0.0

HLADR	Percentage Values (%)		
Method	Returns	Robust Mean	Robust SD
FITC	65	77.1	18.0
Pacific Orange	37	81.6	17.7
PC5.5	33	81.8	21.0

Leukaemia Immunophenotyping (Part 1) Programme

Sample - 161705

Antibody Fluorochrome Specific Statistics

(Please note only groups of >20 returns are displayed)

CD14	Percentage Values (%)		
Method	Returns	Robust Mean	Robust SD
Alexa 750	39	9.2	10.0
APC	26	27.8	19.0
FITC	60	30.7	20.6
PE	32	29.8	24.4

CD15	Percentage Values (%)		
Method	Returns	Robust Mean	Robust SD
APC	21	4.6	4.7
FITC	135	30.0	28.2

CD64	Percentage Values (%)		
Method	Returns	Robust Mean	Robust SD
FITC	27	72.7	18.3
PE	40	83.0	17.2

CD20	Percentage Values (%)		
Method	Returns	Robust Mean	Robust SD
APC	22	0.1	0.1
FITC	52	0.2	0.2
Pacific Orange	32	0.0	0.0
PC5.5	32	0.0	0.0
PE	28	0.3	0.4

Sheffield Teaching Hospitals NHS Foundation Trust, a UKAS proficiency testing provider No. 7804, operating UK NEQAS for Leucocyte Immunophenotyping.

Information with respect to compliance with standards BS EN ISO/IEC 17043:2010

4.8.2 a) The proficiency testing provider for this programme is:
UK NEQAS for Leucocyte Immunophenotyping
Pegasus House, 4th Floor Suite
463A Glossop Road
Sheffield, S10 2QD
United Kingdom
Tel: +44 (0) 114 267 3600, Fax: +44 (0) 114 267 3601
e-mail: nicola.rose@ukneqasli.co.uk

4.8.2 b) The coordinators of UK NEQAS LI programmes are Prof David Barnett and Mr Liam Whitby.

4.8.2 c) Person(s) authorizing this report:
Prof David Barnett, Director or Mr Liam Whitby, Operations Manager of UK NEQAS LI

4.8.2 d) No activities in relation to this EQA exercise were subcontracted.

4.8.2 g) The UK NEQAS LI Confidentiality Policy can be found in the Quality Manual which is available by contacting the UK NEQAS LI office. Participant details, their results and their performance data remain confidential unless revealed to the relevant NQAAP when a UK participant is identified as having performance issues.

4.8.2 i) All EQA samples are prepared in accordance with strict Standard Operational Procedures by trained personnel proven to ensure homogeneity and stability. Where appropriate/possible EQA samples are tested prior to issue. Where the sample(s) issued is stabilised blood or platelets, pre and post stability testing will have proved sample suitability prior to issue.

4.8.2 l), n), o), r) & s) Please refer to the UK NEQAS LI website at www.ukneqasli.co.uk for detailed information on each programme including the scoring systems applied to assess performance (for BS EN ISO/IEC 17043:2010 accredited programmes only). Where a scoring system refers to the 'consensus result' this means the result reported by the majority of participants for that trial issue. Advice on the interpretation of statistical analyses and the criteria on which performance is measured is also given. Please note that where different methods/procedures are used by different groups of participants these may be displayed within your report, but the same scoring system is applied to all participants irrespective of method/procedure used.

4.8.2 m) We do not assign values against reference materials or calibrants.

4.8.2 q) Details of the programme designs as authorized by The Steering Committee and Specialist Advisory Group can be found on our website at www.ukneqasli.co.uk. The proposed trial issue schedule for each programme is also available.

4.8.2 t) If you would like to discuss the outcomes of this trial issue, please contact UK NEQAS LI using the contact details provided. Alternatively, if you are unhappy with your performance classification for this trial, please find the appeals procedure at www.ukneqasli.co.uk/contact-us/appeals-and-complaints/